National Institute of Environmental Health Sciences

Has the impact of heat waves on mortality changed in France since the European heat wave of summer 2003? A study of the 2006 heat wave

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Abstract:

BACKGROUND: In July 2006, a lasting and severe heat wave occurred in Western Europe. Since the 2003 heat wave, several preventive measures and an alert system aiming at reducing the risks related to high temperatures have been set up in France by the health authorities and institutions. In order to evaluate the effectiveness of those measures, the observed excess mortality during the 2006 heat wave was compared to the expected excess mortality. METHODS: A Poisson regression model relating the daily fluctuations in summer temperature and mortality in France from 1975 to 2003 was used to estimate the daily expected number of deaths over the period 2004-2006 as a function of the observed temperatures. RESULTS: During the 2006 heat wave (from 11 to 28 July), about 2065 excess deaths occurred in France. Considering the observed temperatures and with the hypothesis that heat-related mortality had not changed since 2003, 6452 excess deaths were predicted for the period. The observed mortality during the 2006 heat wave was thus markedly less than the expected mortality (approximately 4400 less deaths). CONCLUSIONS: The excess mortality during the 2006 heat wave, which was markedly lower than that predicted by the model, may be interpreted as a decrease in the population's vulnerability to heat, together with, since 2003, increased awareness of the risk related to extreme temperatures, preventive measures and the set-up of the warning system.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2652641

Resource Description

Early Warning System: ☑

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure : ☑

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Extreme Heat

☑

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : France

Health Impact:

specification of health effect or disease related to climate change exposure

Morbidity/Mortality

Intervention:

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Elderly

Resource Type:

format or standard characteristic of resource

Research Article

Resilience:

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale:

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content